

IN THE CLAIMS

1. (Currently Amended) A method for producing oxidized flavor-active terpenes from terpene hydrocarbons by means of a selective biotransformation ~~and using microorganisms of the ascomycetes, basidiomycetes and deuteromycetes~~ ascomycetes, basidiomycetes and deuteromycetes classes, comprising:

(a) providing a lyophilized mycelium,

(b) rehydrating the lyophilized mycelium,

(c) mixing the rehydrated mycelium from step (b) with the substrate, and

(d) recovering the oxidized flavor-active terpene

~~wherein a lyophilized mycel is used which is firstly rehydrated and then mixed with the substrate.~~

2. (Currently Amended) The method as claimed in Claim 1, wherein the method further comprises the step of permeating the mycelium cells prior or after step ~~mycel cells are additionally permeated (a)~~ by ultrasonic treatment and/or extrusion.

3. (Previously Amended) The method as claimed in Claim 1, wherein the biotransformation is carried out in a submerged culture.

4. (Previously Amended) The method as claimed in Claim 1, wherein the biotransformation is carried out in an enantioselective, a stereoselective and/or a regioselective manner.

5. (Currently Amended) The method as claimed in Claim 1, wherein representatives of ~~Fusarium, Pleurotus, Penicillium and Chaetomium~~ Fusarium, Pleurotus, Penicillium and Chaetomium are used as the microorganisms.

6. (Currently Amended) The method as claimed in Claim 5, wherein ~~Fusarium proliferatus, Pleurotus sapidus, Penicillium citrinum and Chaetomium globosum~~ Fusarium proliferatus, Pleurotus sapidus, Penicillium citrinum and Chaetomium globosum are used as the microorganisms.

7. (Previously Amended) The method as claimed in Claim 1, wherein mono- and sesquiterpenes are used as the terpene hydrocarbons.

8. (Previously Amended) The method as claimed in Claim 1, wherein limonene, pinene, valencene, farnesene, thymol and dimethyl allyl alcohol are used as the terpene hydrocarbons.

9. (Previously Amended) The method as claimed in Claim 8, wherein R-(+) limonene or S-(-) limonene are used as the terpene hydrocarbons.

10. (Currently Amended) The method as claimed in Claim 1, wherein before the biotransformation an enzyme induction is carried out in the ~~lyophilized mycel~~ mycelium prior to lyophilization by an addition of substrate.

11. (Previously Amended) The method as claimed in Claim 1, wherein the biotransformation is carried out in a two-phase system.

12. (Original) The method as claimed in Claim 11, wherein the biotransformation is carried out in a two-phase system without co-solvents.

13. (Previously Amended) The method as claimed in Claim 1, wherein the biotransformation is carried out in a medium with a reduced quantity M of carbon source.

14. (Original) The method as claimed in Claim 13, wherein the reduced quantity M of carbon source M is $< 50 \text{ gL}^{-1}$.

15. (Previously Amended) The method as claimed in Claim 1, wherein the reaction is carried out in a stirred tank, surface or fixed bed reactor.

16. (Previously Amended) The method as claimed in Claim 1, wherein terpenoid alcohols, epoxides, aldehydes, ketones, multiple alcohols, carbonyls and carbonyl alcohols are obtained as the flavor-active terpenes.

17. (Previously Amended) The method as claimed in Claim 16, wherein piperitone, isopiperitone, isopiperitenol, isopiperitenone, perillaaldehyde, carvone, carveol, linalool, linalool oxide, terpineol and nootkatol and nootkatone are obtained.

18. (Currently Amended) The method as claimed in Claim 1, wherein the ~~transformation~~ biotransformation products are isolated from cellular compartments or fractions.

19. (Previously Amended) The method as claimed in Claim 1, wherein firstly R-(+)-limonene is biotransformed in an enantioselective manner to cis-(+)-carveol and S-(-)-limonene is biotransformed in an enantioselective manner to trans-(-)-carveol and subsequently trans-(-)-carveol to R-(-)-carvone.

20. (Currently Amended) The method as claimed in Claim 19, wherein the enantioselective biotransformation of R-(+)-limonene to cis-(+)-carveol is carried out with ~~Fusarium~~ Fusarium species as the biocatalyst.

21. (Currently Amended) The method as claimed in Claim 19, wherein the enantioselective transformation of trans-(-)-carveol to R-(-)-carvon is carried out with species of the genus Pleurotus ~~Pleurotus spee-~~ as the biocatalyst.

22. (Previously Amended) The method as claimed in Claim 1, wherein bicyclic sesquiterpenes are transformed to β -nootkatol and subsequently to nootkatone.

23. (Withdrawn) The method as claimed in Claim 22, wherein the transformation of bicyclic sesquiterpenes to β -nootkatol and subsequently to nootkatone is carried out with *Chaetomium* species.